

A2

11. (Amended) A drilled metal sheet produced by using the metal sheet drilling device defined in Claim 5.

Please add the following new claim:

A3

--12. (New) A drilled metal sheet produced by using the metal sheet drilling method defined in Claim 10.--

REMARKS

The above amendments to the claims are being made in order to place this case in better condition for examination.

Respectfully submitted,

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Version with markings to show changes made

3. (Amended) A metal sheet drilling disk roll according to Claim 1-~~or~~-2, wherein the shape in plan of the drilling blade is set to a rectangular shape or a substantially rectangular shape with four corner portions thereof rounded.

4. (Amended) A metal sheet drilling disk roll according to Claim 1-~~or~~-2, wherein the shape in plan of the drilling blade is set to one of an elongated circular shape, an elliptic shape, a right circular shape, a rhomboidal shape and a substantially rhomboidal shape with four corner portions thereof rounded.

5. (Amended) A metal sheet drilling device for making a plurality of holes in a metal sheet or metal foil, characterized by:

disposing the metal sheet drilling disk roll according to ~~one of Claims~~Claim 1-~~to~~-3 as an upper side roll, and connecting coaxially to both sides of the upper roll a pair of upper side guide rolls the radius of each of which is set smaller than the length measured from the center of the metal sheet driving disk roll to the lowest portion of the drilling blade, by at least a size corresponding to the thickness of the metal sheet or metal foil to form an upper roll unit,

disposing as a guide roll a disk roll the thickness of which is slightly larger than that of the metal sheet driving disk roll, and connecting coaxially to both sides of the guide roll a pair of lower side guide rolls the radius of each of which is set larger than that of the disk

roll by a length corresponding to the sum of the thickness of the metal sheet or metal foil and a difference between an amount of projection of the highest portion of the drilling blade and that of projection of the lowest portion thereof, to form a lower roll unit,

engaging the upper roll unit and lower roll unit with each other, and forming portions capable of being drilled in the metal sheet while passing the metal sheet or metal foil beneath the drilling roll disk, and

disposing on the front and rear sides of the portions to be drilled tensile force application units formed of means for applying a tensile force to the metal sheet or metal foil.

7. (Amended) A metal sheet drilling device according to Claim 5--or--6, wherein the upper roll unit, lower roll unit and tensile force application means are provided in such positional relation that permits the metal sheet or metal foil to advance along a part of an outer circumference of the guide roll so that the metal sheet or metal foil is drilled as the metal sheet winds round the guide roll.

8. (Amended) A metal sheet drilling device according to Claim 5--or--7, wherein the tensile force application means are formed of upper and lower pinch rolls adapted to hold the metal sheet or metal foil therebetween.

9. (Amended) A metal sheet drilling device according to Claim 5--or--7, wherein the tensile force application means comprises a pair of upper and lower bridle rolls.

10. (Amended) A metal sheet drilling method for drilling a metal sheet or metal foil by using the metal sheet drilling device defined in ~~one of Claims~~Claim 5 to 9, wherein:

the metal sheet or metal foil is passed through the two tensile force application units provided on the front and rear sides of the drilling unit, the upper and lower roll units which constitute the drilling unit being rotated as a tensile force is applied to the metal sheet or metal foil by the tensile force application means each of which constitutes the tensile force application unit respectively, the metal sheet or metal foil being thereby drilled continuously.

11. (Amended) A drilled metal sheet produced by using the metal sheet drilling device defined in ~~one of Claims~~Claim 5 to 9, and the metal sheet drilling method defined in ~~Claim~~ 10.